

Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF ENTOMOLOGY,
WASHINGTON, D. C.

Forest Entomology Brief 52.

January 15, 1924.

CAUSES FREQUENTLY CONTRIBUTING TO THE ATTACK OF
SHADE TREES AND HARDY SHRUBS BY BORERS.I. Lack of Water and Air.

The roots of trees must receive water and air, the quantity necessary depending upon the tree. When the amount received is insufficient, sparse and pale foliage appears, and limbs and branches, especially the higher ones, frequently die. Such trees are often attacked and killed by barkbeetles and borers.

There are many causes for trees encountering such difficulties:

Recently transplanted trees often suffer death in this manner because of the shock of transplanting, the root injury, or the failure to supply them with enough water after planting them in their new locations

Changing the grade about trees, and either bringing the roots too near the surface or where they may dry out, or covering them over too deeply and thus preventing moisture and air from penetrating to them.

Covering too much of the ground about trees with cement, asphalt, macadam, or other impervious materials, as in road and sidewalk building, thus preventing penetration of air and water.

Removing too many trees of a thickly wooded area in thinning out, thereby changing the exposure of the surface of the ground to air and sunlight and thus increasing evaporation and drying of the soil.

II. Poor Soil or Unfavorable Locations.

Many trees never attain normal vigor because they are planted in poor soil; or, if better soil is placed in the holes with them, it is in insufficient quantity; or, having been successfully planted, the tree is left without further assistance to obtain the soil materials necessary in future years. Frequently the tree and site are chosen without proper consideration being given to the extent of their interrelation and the effects that the surroundings must have upon the growth and vigor of the tree. High ground, low ground, slope, shade, location with regard to buildings, etc., are among the conditions to be recognized and coped with in this connection.

The lack of health of such trees causes them to be unusually liable to serious insect difficulties.

III. Injuries.

Untreated injuries, either those due to natural causes such as wind, lightning, or the like, or those due to man, animals, buildings and the like, are not infrequently the means by which some species of borers effect an entrance and they also contribute to a lowered vitality that makes the tree an easy and attractive prey for insects. All such wounds should be thoroughly cleaned, cutting down to sound wood, and thickly coated with paint or some similar preservative coating.

IV. Defoliators.

Trees that have suffered loss of leaves, especially evergreens which frequently die from the effects of the defoliation alone, are weakened and are more subject to injury by borers than trees in full vigor.

V. Attacks by Scale Insects.

Trees infested by scale insects are weakened and their loss of vitality makes them easy prey to borer injury.

WILLIAM MIDDLETON,
Specialist in Shade-Tree Insects.

Approved:

F. C. CRAIGHEAD
Entomologist in Charge of Forest Insect Investigations.